



United States Department of the Interior

GEOLOGICAL SURVEY
Water Resources Division
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Dear Ted:

At the request of Navy, we are providing the following review comments of the draft "Corrective Action Plan for Phase II Interim Measure" for the Site 11 Old Camden County Landfill Naval Submarine Base, Kings Bay, Georgia. Some comments are included in the margin of the document. Following are listed comments that may be correlated with the corresponding circled number in the report:

- 1. In light of the Georgia Environmental Protection Division's (GAEPD) current interest in expediting the NSB project to closure, perhaps it would be more appropriate to delete all reference in the CAP report to a Phase II Interim Measure. If this reference is not required, I suggest that all reference to an IM be deleted in titles, figures, and discussion. By inference, an IM suggests there will be a Final Action Plan coming at some later date I get the feeling that GAEPD wants the end result of this CAP to be site remediation.
- 2. The EXECUTIVE SUMMARY should be rewritten subsequent to report body changes. Specifically, the CAP should include much more that is identified at comment (2). It should also provide direction to cleanup, not just additional containment. In addition, it should (1) identify additional monitoring and data-collection needs; (2) describe a Performance Evaluation Plan; and (3) provide a Termination Policy.
- 3. Containment/remediation should not be limited by the CAP to the western boundary of the landfill. Additional data collection as part of the CAP Phase I could reveal contamination in other directions. Recent GW investigations suggests flow exporting the landfill area in several potential directions.

- 4. The NOD should not direct the CAP, although the CAP should provide actions to address the NOD concerns. The primary driving force behind the CAP should be site remediation.
- 5 CAP should not provide IM for "contamination beneath Site 11", but should provide for containment/remediation for all contaminated ground water.
- 6. Rewrite SCOPE section. Suggest a two phase approach: Phase I would include USGS planned activities, ie...continuous w/l data to evaluate tidal, seasonal, climatic trends; pre-stress potentiometic surface; stressed potentiometric surface; borehole geophysics; develop conceptual framework and gw flow analysis for larger study area; and the gw flow model (which is currently not in Navy's plan). Other project activities under Phase I would include: redevelopment of existing RW's and evaluate their performance; evaluate pulse pumping of the RW's using additional gw sampling; development of a Performance Evaluation Plan to measure the success of the remediation; and develop a Termination Plan as a guide to bring the Site 11 remediation to closure. Phase II would include the installation of any additional RW's and monitoring wells and an assessment of system performance that could result in the decommissioning of selected RW's.
- 7. The GROUND WATER CORRECTIVE ACTION section would be more meaningful to the GAEPA if it were reorganized. A suggested rough outline could include:

I INTRODUCTION

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Brief site history

II DATA COLLECTION

Summary of ABB data-collection activities--provide in summary format without all the details, present in chronological order.

A listing of all data collected by type.. ie SOIL BORINGS, WATER LEVELS, AQUIFER HYDRAULIC CHARACTERISTICS,....ETC...

III DATA ANALYSIS/INTERPRETATION

A summary of interpretations...ie..primary gw flow direction, RW performance (area of w/l influence--suggest avoid CAPTURE ZONE ANALYSIS), hydraulic characteristics, general contamination distribution (vertical and horizontal); change in chemical distribution with time (provide in table format, with all detects and concentrations shown for each well and each sampling period together presented in chronological order)

IV DATA GAPS

A listing of all perceived data gaps (no smoke screens). This is not an admission of negligence on anyone's part, the scope of the project has obviously changed since initiation.

V CAP OBJECTIVES

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List as previously discussed

- 8. The Navy CRT is strongly opposed to the inclusion of the simulated capture zone map or the reference to capture zone. This is also obviously a point of concern with the GAEPD. For these reasons, it would probably be better to delete this analysis from the CAP. From Navy's conversation with GAEPD on February 15, 1996, models are not well received by GAEPD (at least not by Billy Hendricks).
- 9. CAP OBJECTIVES section should be rewritten to coincide with previously suggested changes (see 6 and 7 above).
- 10. The Performance Evaluation Plan must include much more that an evaluation of the treatment system and plume containment along the western boundary of the landfill.
- 11. The SUMMARY AND SCHEDULE section must be rewritten to agree with all other changes to the CAP document.
- 12. Remove all the 'fluff' from the appendix sections. Much of this is not needed and appears to be filler material.

If you have questions regarding my review or suggestions, please do not hesitate giving me a call. Hopefully, we can restructure this document to a format and content that will be acceptable with the GAEPD and will meet Navy's needs.

Regards,

David W. Hicks Hydrologist

cc: Anthony B. Robinson, SouthDiv